

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 06/14)

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF COMPLIANCE		NRCC-MCH-02-E
HVAC Dry System Requirements		(Page 1 of 3)
Project Name:	Date Prepared:	

A. Equipment Tags and System Description¹				
B. MANDATORY MEASURES	T-24 Sections	Reference to the Requirements in the Contract Documents²		
Heating Equipment Efficiency ³	110.1 or 110.2(a)			
Cooling Equipment Efficiency ³	110.1 or 110.2(a)			
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)			
Furnace Standby Loss Control	110.2(d)			
Low leakage AHUs	110.2(f)			
Ventilation ⁴	120.1(b)			
Demand Control Ventilation ⁵	120.1(c)4			
Occupant Sensor Ventilation Control ⁶	120.1(c)5, 120.2(e)3			
Shutoff and Reset Controls ⁷	120.2(e)			
Outdoor Air and Exhaust Damper Control	120.2(f)			
Isolation Zones	120.2(g)			
Automatic Demand Shed Controls	120.2(h)			
Economizer FDD	120.2(i)			
Duct Insulation	120.4			
C. PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y/N	Y/N	Y/N
Supply Fan Pressure Control	140.4(c)			
Simultaneous Heat/Cool ⁸	140.4(d)			
Economizer	140.4(e)			
Heat and Cool Air Supply Reset	140.4(f)			
Electric Resistance Heating ⁹	140.4(g)			
Duct Leakage Sealing and Testing. ¹⁰	140.4(l)			
Notes:				
1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.				
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.				
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.				
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.				
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.				
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation				
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).				
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.				
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.				
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.				

HVAC WET SYSTEM REQUIREMENTS

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CERTIFICATE OF COMPLIANCE		NRCC-MCH-02-E
HVAC Wet System Requirements		(Page 2 of 3)
Project Name:	Date Prepared:	

A. Equipment Tags and System Description¹				
B. MANDATORY MEASURES	T-24 Sections	Reference to the Requirements in the Contract Documents²		
Heating Hot Water Equipment Efficiency ³	110.1			
Cooling Chilled and Condenser Water Equipment Efficiency ³	110.1, 140.4(i)			
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e) 1			
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI) ⁶	110.2(e) 2			
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e) 3			
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e) 4			
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e) 5			
Pipe Insulation	120.3			
C. PRESCRIPTIVE MEASURES				
Cooling Tower Fan Controls	140.4(h)2, 140.4(h)5	Y/N	Y/N	Y/N
Cooling Tower Flow Controls	140.4(h)3			
Centrifugal Fan Cooling Towers ⁴	140.4(h)4			
Air-Cooled Chiller Limitation ⁵	140.4(j)			
Variable Flow System Design	140.4(k)			
Chiller and Boiler Isolation	140.4(k)			
CHW and HHW Reset Controls	140.4(k)			
WLHP Isolation Valves	140.4(k)			
VSD on CHW, CW & WLHP Pumps >5HP	140.4(k)			
DP Sensor Location	140.4(k)			
Notes:				
1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.				
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.				
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B.				
4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.				
5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant.				
6. Identify the existence of a completed MCH-06-E \when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".				

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Project Name:	Date Prepared:	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
<p>I certify the following under penalty of perjury, under the laws of the State of California:</p> <ol style="list-style-type: none"> 1. The information provided on this Certificate of Compliance is true and correct. 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer). 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. 	
Responsible Designer Name:	Responsible Designer Signature:
Company :	Date Signed:
Address:	License:
City/State/Zip:	Phone:

